

MARINE REVIEW.

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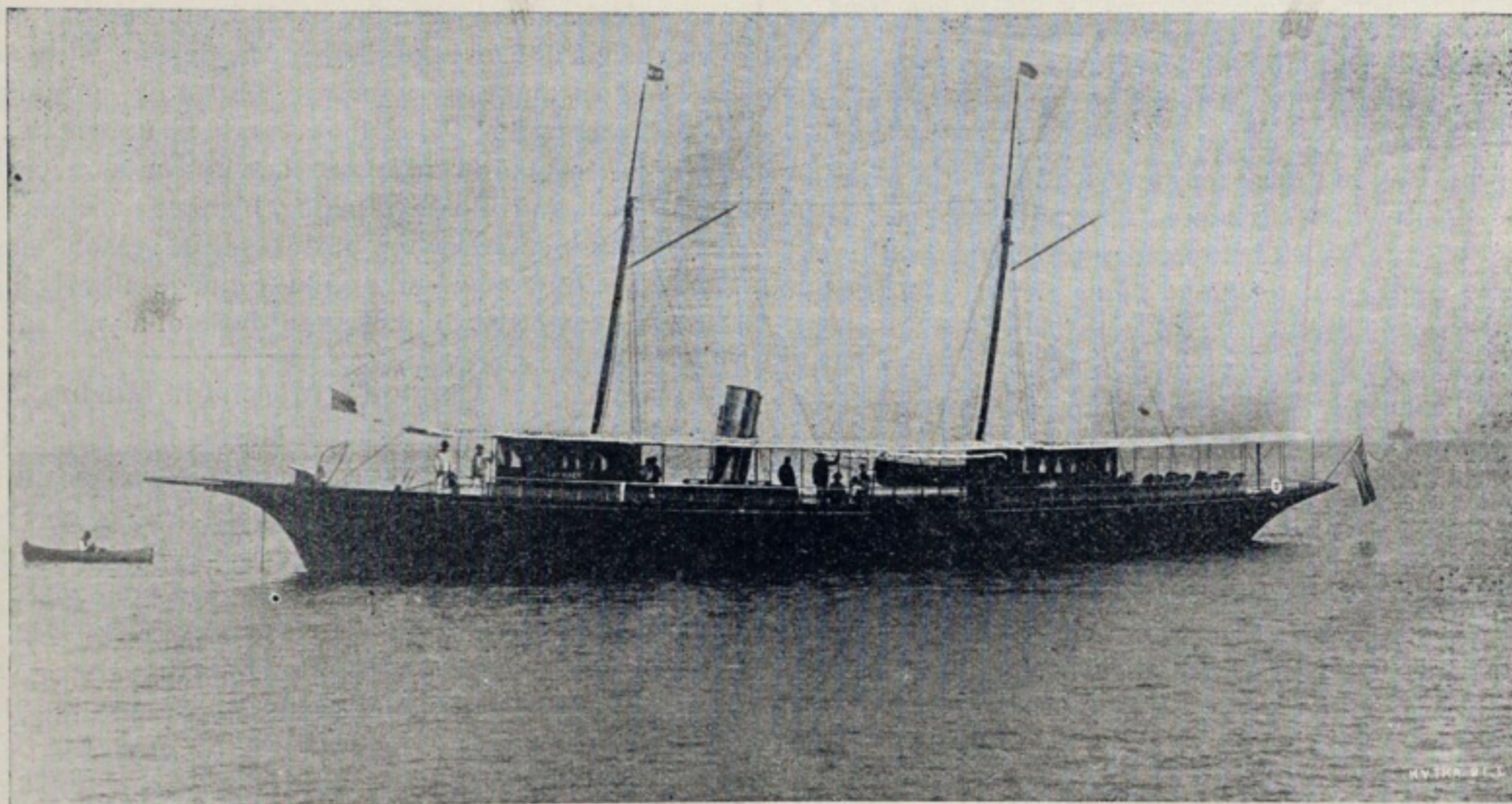
CLEVELAND, OHIO, THURSDAY, APRIL 7, 1892.

No. 15.

May be Compelled to Tie Up at Night.

Nothing has been done towards providing for private lights in the vicinity of the Lime-Kilns' crossing and the keepers of the lights may, if they see fit, refuse to light them, in which case most of the deep laden vessels on arriving down past Detroit by night would be compelled to tie up until daylight. A large amount of money is still due the light keepers under agreement made with them last season and they can hardly be blamed if they refuse to perform this service another season taking chances of being paid through collections in the fall. The range lights and floats at the Lime-Kilns' crossing, Bar point light-ship and the float light at Ballard's reef are all aids to navigation that can not be dispensed with for night service, and if the towers at the Lime-Kilns' were taken down it is more than probable that

114 feet on water line, 12½ feet beam and 5½ feet draft with fuel on board. Her 4-foot wheel with 8 feet lead is turned 400 revolutions per minute when the yacht is running 20 miles an hour. The quintuple expansion engines have cylinders 11, 17, 23, 23 and 23 by 15 inches stroke and steam is furnished at 250 pounds pressure by the 8 by 10 feet Roberts boiler having grate surface 9 by 7 feet. Mr. White had this boiler put in place of another and says that but for it the boat would be a failure. The pressures on the cylinders are 250, 180, 100, 10 and ½ pounds respectively, and 26 inches of vacuum is obtained. She has a surface condenser with Worthington air pump and admiralty pattern feed pump, the latter being the first of the kind on the lakes. There is no doubt but that the Say When is the fastest yacht on the lakes, and her present owner has received



A 20-MILE AN HOUR STEAM YACHT.

many serious accidents would result from navigating the channel in this neighborhood without them even in the day time. The float lights and ranges at this point are now lighted for one hour each night about the time at which the Detroit and Cleveland Steam Navigation Company's boat passes down from Detroit for Cleveland, but Messrs. Duff and Gatfield and Capt. Andrew Hackett of Amherstburg, who look after these lights as well as the Bar point light-ship, have said nothing as yet as to their intentions regarding the service when navigation is open generally. They are paid by the Detroit and Cleveland company for their work at present. The ranges at Point Edward, entrance to the St. Clair river, will probably be lighted with the opening, Mr. Lynn of Port Huron trusting to collections in connection with other work for the vessel owners.

The Steam-Yacht Say When.

Herewith is presented an illustration of the steel steam yacht Say When, built by the Herreshoffs, Bristol, R. I., for Norman Munro and sold to W. J. White, Cleveland. She is similar to the Now Then, built for the same party. The Say When is

several offers for her. It is understood that she cost \$75,000. Captain Joseph Todd will command her this season and W. Schuman will be chief engineer.

In a book on boiler tests, George H. Barrus, S. B., Boston, says that the relation between heating surface and grate area should be, for anthracite in proportion of 36 to 1 and for bituminous coal 45 or 50 to 1. Highest efficiency is obtained when the tube opening is from one-ninth to one-tenth and one-sixth to one-seventh of the grate surface for anthracite and bituminous coals respectively. Of nine water tube boilers tested only one reached the standard laid down for economy. He found 11.04 pounds of water were evaporated from and at 212 degrees by one pound of bituminous coal, while 9.79 pounds was the most evaporated by any kind of anthracite coal. Of petroleum as fuel it is claimed that it must cost less than \$1 per barrel in order that the cost of fuel and labor for a 1,000 horse power plant shall be equal to that which obtains when bituminous coal is used at \$4.56 per ton. The writer concludes that feed-water heaters are economical when coal costs more than \$2.28 per ton.

Lake Freight Situation.

With the great bulk of the lake fleet chartered for first trips with grain, vessel owners are giving little attention to ore and they do not seem worried by the dull and unsatisfactory condition of the iron market. Grain freights have dropped under the pressure of tonnage thrown entirely into that trade, and the latest charters are at $2\frac{3}{4}$ cents from Chicago and $3\frac{3}{4}$ cents from Duluth to Buffalo, but very few boats not contracted for ore and in other lines are to be found on the market. Not more than 125,000 tons of Escanaba ore outside of that to be taken by the boats of the iron ore companies trading regularly to that port has been covered by lake freight, and the outcome of the present suspense regarding the traffic of Escanaba, where shipments for the season should reach about 3,000,000 tons, can not be predicted.

The establishment of a 40-cent rate on coal from Buffalo to Chicago was hardly a surprise when the large amount of tonnage wintering in that port is taken into consideration. In Cleveland rates on soft coal from Ohio ports have been settled at 50 cents to Duluth, Marquette, Sault Ste. Marie and Milwaukee and 60 cents to Portage. These figures are somewhat lower than was expected, and Duluth shippers are even now trying to reduce the rate to that port to 45 cents. On coal to Escanaba 40 cents is all that is offered but no tonnage has been chartered at that figure as yet. Everything is against coal contracts or even charters to Lake Michigan, on account of the small amount of Escanaba ore covered by lake freight. For several seasons past a prominent coal firm shipping to Manitowoc has managed to secure tonnage engaged in the Escanaba ore trade for the transportation of its Manitowoc coal at about 50 cents a ton, but so far this season this coal has not been provided for and it is probable that the shippers will take chances on a wild market. Milwaukee coal contracts are also hampered by similar conditions. The several meetings of the Ohio and Pennsylvania coal producers and shippers have resulted in agreements regarding prices and tonnage reports covering shipments to all upper lake ports that seem certain to bring about a regulation of the trade that will be beneficial to all concerned.

Lumber shipments from the head of Lake Superior will undoubtedly be very active, as Ashland shippers are offering freely \$2.50 for single trips or for three to six trips to Chicago. One lumber charter from Bay City to Buffalo is reported at \$2. If rates from the Saginaw district are to be established on this basis, vessel owners will have gained another point in the market, as some of the shippers had expected to secure a rate of \$1.75, Bay City to Buffalo.

Hull and Cargo Insurance Matters.

Mr. Harvey D. Goulder, who was in Cleveland for a few days of the past week, but who is now in Bay City attending court, was spoken to regarding the Grosse point stranding clause of the hull policy for the present season. He has been referred to by some of the underwriters as authority for the statement that vessels will be insured under this clause against losses incurred through stranding in any way other than from overloading. Mr. Goulder was unwilling to give an opinion as to advantage or disadvantage to the vessel owner in including this clause in the policy, but was very emphatic in declaring that he had not endorsed it with an opinion.

"I was in Detroit," he said, "when the underwriters held their meeting, and one of them, a friend, came to me with a copy of the clause as they had it under discussion, explaining that he thought it too stringent and asking my opinion of it. I was not consulted as an attorney, but drew off for this friend a modification of the clause, explaining to him that I did not think the vessel owners would object to a refusal on the part of the underwriters to adjust a loss where it was found that the vessel was overloaded. I was told afterward that my modification was not

adopted, and one of the reasons for it was that some of the underwriters had come to the meeting with authority from a number of companies to support a provision regarding river strandings that had been prepared in advance of the Detroit gathering."

Underwriters claim that some vessels stranding at Grosse point last season, upon which losses were adjusted, were loaded too deep for what was known to be the limit of draft, and that the effect of the new clause will be simply to cover such cases. The charge that a vessel is overloaded will be difficult to settle, however, and the new order has certainly caused a great deal of ill feeling among vessel owners. It has become very common of late to hear vessel owners talk of mutual insurance when the underwriters manage to secure a combination and put up rates or enforce a rule similar to that now under discussion. There has been more talk of this kind since the Detroit meeting, but to speak truthfully regarding it the owners who propose such a plan are of the conservative class, who may not attempt anything of the kind the present season, but who propose to talk the subject up for future action. A few of them in Cleveland are among the owners of wooden steamers who have received no benefit from the competition with English underwriters that has resulted in low rates for high-class risks. They argue that in sympathy with the general reduction in charges and profits governing all other lines of the lake trade, the underwriters have not prepared themselves for the changed conditions by an adjustment of the system attending their business. The profits of general agencies and sub-agencies of all kinds coming out of the vessel in end is not in accordance, they claim, with advancement in other lines and can be improved upon by mutual insurance.

Underwriters who took cargo insurance last season as low as $14\frac{1}{2}$ cents on iron ore and 17 cents on coal to both Lake Michigan and Lake Superior, blanket policies, are not making as great an effort for the business this season, and it is probable that the rates prevailing on tonnage now being covered will average somewhat higher than those of a year ago.

Canada's Merchant Marine.

Canada's department of Marine has issued a report for the year ending Dec. 31, 1891, when there was on the register books 7,015 vessels of all kinds, measuring 1,005,475 registered tons, being an increase of twenty-four vessels, and a decrease of 19,499 register, as compared with the same date in 1890. The number of steamers on the registry books Dec. 31, 1891, was 1,423, with a gross tonnage of 221,679 tons. Assuming the average value steam and sail to be \$30 per ton the value of the registered tonnage of Canada would be \$30,164,250.

The number of new vessels built and registered in the Dominion during the year was 312 measuring 52,145 tons, register tonnage. Estimating the value of the new tonnage at \$45 per ton, it gives a total value of \$2,346,525 for new vessels. The number of tons of new vessels is included in the total register tonnage of 1,005,475, and in the total value of \$30,164,250.

Notices to Mariners.

On or about April 25, a fixed red lens-lantern range light will be established, on a post 22 feet high, on the outer end of the north pier at the entrance to Sheboygan, Wis., Lake Michigan. The light should be visible in clear weather 2 or 3 statute miles, and with Sheboygan pierhead light will form a range showing the directions of the piers and the course to be followed in entering the harbor.

On the same date the characteristic of the light at Point Betsey light-station, east shore of Lake Michigan, will be changed from fixed white, varied by a white flash every 90 seconds to flashing white every 10 seconds. The order of the light will not be changed.

Send 75 cents to the MARINE REVIEW for a Binder that will hold 52 numbers.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St. Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 76 00
Champion Iron Company.....	25 00	.....	70 00
Chandler Iron Company.....	25 00	45 00	48 00
Jackson Iron Company.....	25 00	.....	100 00
Lake Superior Iron Company.....	25 00	.....	51 00
Minnesota Iron Company.....	100 00	76 50	80 00
Pittsburg Lake Angeline Iron Co.....	25 00	150 00	175 00
Republic Iron Company.....	25 00	.....	21 00
Ashland	25 00	.....	47 00
Section Thirty-three.....	25 00	.....	7 00
Brotherton.....	25 00	.....	2 50
Iron Belt.....	25 00	2 25	2 50

It would be difficult to imagine a more uninteresting market than that for iron mining stocks at the present time. Even the Mesaba excitement has failed to arouse a selling movement, and there is nothing interesting in the way of dividends. The Iron-Cliffs company is expected to pay its first installment of a regular 6 per cent annual dividend this month but there has been no official announcement on the subject. The Republic company has sold two of its wooden steamboats at a price a little above \$100,000 but the payments are only partially cash and no sharing of this money may be expected as yet.

We have received from W. C. Brown & Co. of Marquette, Mich., a very good map of the Mesaba range. It was prepared by one of the best known explorers and mineral experts in the Lake Superior country and is well worth \$2.50, the price at which it sells.

Cuban Iron Ores.

Lake vessel owners and iron ore producers in the Lake Superior region who have given some attention to the development of mineral lands in Cuba will be interested in reports of a recent visit of Philadelphia capitalists to the mines. The party was made up mainly of stockholders in the Sigua Iron Company and was accompanied by George W. Goetz, mining expert of Milwaukee, who is well known to Lake Superior producers and shippers. The operations of the Sigua company, which is distinctively a Philadelphia concern, are about as far advanced as that of the Spanish-American company, in which the American Steel Barge Company and some Cleveland capitalists are interested, neither corporation having shipped any ore as yet, although a very large amount of money has been put into railways and docks, which are constructed after the system in use at Escanaba, Marquette and other lake shipping ports. The Juragua company, which is controlled by the Bethlehem Iron Company and the Pennsylvania Steel Company, and which was the first to enter the Cuban field about eight years ago, has expended \$2,500,000 in plant and expenses, and has shipped to Pennsylvania nearly 1,500,000 tons of Bessemer ore. The mines of this company as well as those of the concerns which have not as yet shipped any ore were visited, and most flattering reports are made of immense quantities of mineral of the finest Bessemer quality. Mr. Goetz says that the hills are strewn with ore averaging over 60 per cent. in iron and being very low in phosphorus, but he advances the opinion that the ore can not be brought west of the Alleghanies to compete with the Lake Superior product, although it will find a market along the Atlantic coast. A freight rate of not less than \$1.75 a ton has been made, he says, and the duty is 75 cents a ton. The wages are only \$1 a day, but it is very poor labor. The laborers are a promiscuous lot of Spaniards, Cubans and negroes. They are naturally lazy, and then the climate will not permit of such hard work as is expected of a laborer in the north. Notwithstanding the low wages, the cost of labor is about the same as here, when it is taken into consideration that a man there can not do nearly so much as a laborer would perform here.

FRIES, VALENTINE, MILAN, O.: Steamers—William Edwards, Capt. W. W. Collins; Golden Age, Capt. John C. Floor. Schooners—Charles Foster, Capt. Dan Stalker; Marion W. Paige, Capt. J. W. Wilson; Atmosphere, Capt. Angus McGougan.

Congressional Measures.

A report from the House committee on interstate and foreign commerce recommends the repeal of a resolution passed by the last Congress to permit the secretary of war to grant a revocable license to use a pier at the mouth of the Chicago river. The railway company seeking the use of this pier sought to prevent tows being made up in that part of the river.

Mr. O'Neil of Pennsylvania has introduced a bill in the House providing that "the lights of ferry boats and barges and canal boats when in tow of steam vessels shall be regulated by the board of supervising inspectors of steam vessels."

As anticipated in recent issues of the REVIEW, the first of the "free ships" bills has been reported favorably to the House by the committee on merchant marine and fisheries. It is the measure proposing American registry for certain high class ocean-going steamers, bill No. 7,023, and is intended for bait to the honest supporters of American shipping, although its aim is clearly in the direction of breaking down opposition to "free ships." The shipbuilders of the lakes should join in opposition to such measures or they will soon find themselves confronted with similar legislation.

Canada's Cruisers—Model of the Santa Maria.

Special Correspondence to the MARINE REVIEW.

WASHINGTON, D. C. April 8—The United States commercial agent at Collingwood, has forwarded to the state department here, some statistics concerning the new Canadian cruiser Constance, recently launched at Owen Sound. The length on the water line is 118 feet; over all 125.1 feet; draft of water, 10 feet aft and 8.6 feet forward; depth of hold, 11.3 feet. She is constructed with what is known as the "ram stern." She is to be propelled by steam, with the addition of two leg-of-mutton sails of 40 feet hoist and 30 feet on foot. Her engines are compound, with a capacity of 115 to 120 revolutions. Her expected speed is 13 to 14 knots an hour. She is of the composite construction, all steel with the exception of the keel and the bottom, which is planked to about the light-water mark. The Constance is constructed to carry three guns on each quarter and one on the forward deck, but the size is not specified in the plan examined. Her engines and boilers are protected by a quarter-inch sheet of steel, leaving a space between it and the side of the ship to be used as coal bunkers. The thickness of the plates of the Constance is three-fourths of an inch.

The agent reports that as far as he is able to learn this boat was built for the marine and fishery department of the Canadian Government, but has been transferred to the custom department to be used on the Gulf of St. Lawrence. This information is verified by recent statements made to the official organ of the Government which goes to show that the necessity for a better boat for preventing smuggling operations in the lower St. Lawrence led to the selection of the Constance. The organ states that she was built for the fishery protection service on the great lakes, and to supply her place the minister of marine has decided to have another swift vessel built this winter. The new one will be of steel throughout, rather than a composite ship, as is the Constance, and will also have a lighter draft, and of necessity a greater beam, which will enable her to navigate with safety the shallow waters in which the fishermen of the lakes ply their calling.

The treasury department is informed by Mr. William E. Curtis that there will be built for exhibition at the World's Columbian Exposition a model of the Santa Maria, the flagship of Columbus on his first voyage across the Atlantic, and perhaps models of two vessels that accompanied him; that these boats will be built in Spain and brought to the United States to take part in the naval parade next year; that they will then be taken through the canals and the lakes to Chicago, and at the close of the exposition will be brought to Washington and moored in the lake in the White Lot. Mr. Curtis says that the vessels are to be brought in simply as curiosities, and not for trade, and he inquires as to the free entry of the same in case they are built by private capital, etc. Assistant Secretary Spaulding has informed him in reply that if the vessels are brought in solely for exhibition at the exposition they will be entitled to free entry, but the department cannot now advise him as to their liability to duty at the close of the exposition in case they are not exported, further than to say that the question of their presentation to the government and of their acceptance will be duly treated when the occasion occurs for its consideration.

Official Numbers and Tonnage.

The bureau of navigation assigned official numbers to the following lake vessels during the week ending April 2: Steam—Susie B., Cleveland, 19.54 tons gross, 9.77 net, No. 116,482. Sail—J. L. Hudson, Sandusky, 18.43 tons gross, 11.06 net, No. 77,017; Jay Ochs, Sandusky, 18.43 tons gross, 11.06 net, No. 77,018.

Canadians on American Vessels.

Several lake newspapers recently printed a story to the effect that the treasury department had decided that Canadians could no longer be employed in any capacity on American vessels. The report is entirely erroneous and comes from the following decision of the department bearing upon the contract labor law, but not changing in any way the interpretation of the laws that have always governed in this regard:

Office of the Secretary of the Treasury, }
Washington, D.C., March 16, 1892. }

Thomas M. Fisher, Esq., Immigration Inspector,

Port Townsend, Washington.—Sir: I hand you herewith a communication from the acting solicitor of the treasury, dated the 11th instant, in which he expresses the opinion that the bringing of aliens to this country under contract to perform labor as seamen aboard American vessels, sailing between ports of the United States and ports of Canada, constitutes a violation of the act of Feb. 26, 1885, and the act of March 3, 1891. In this opinion the department concurs. Obviously the employment of foreigners as sailors, etc., on board American vessels, sailing between ports of the United States and Canada is not in violation of law, provided they already have domicile within the United States at the time when such employment begins, and have not been brought into the country under contract to perform service. It is a necessary inference that in case an American vessel, while in foreign ports, is deprived of its crew, or a portion thereof by desertion or otherwise, the owner or master may engage alien sailors to man the vessel. Any other construction of the law would tend to cripple American commerce, a result which obviously Congress could not have intended.

A. B. NETTLETON, Acting Secretary.

The opinion of the solicitor, referred to in the above, is as follows:

Department of Justice, }
Office of the Solicitor of the Treasury, }
Washington, D.C., March 11, 1892. }

The Honorable, the secretary of the Treasury.—Sir: By reference of Assistant Secretary Nettleton I have before me a letter addressed to him by Supt. Owen under date of the 26th ultimo, with regard to the employment of Canadians by captains and by owners of American vessels, "plying between Canada and the United States, in violation of the alien contract labor law." It is assumed by the superintendent, that such employment is in violation of said law; and as the question has not been raised in the department, he suggests that the opinion of the solicitor be requested.

Section 4,131, revised statutes, prescribes that "officers of vessels of the United States shall in all cases be citizens of the United States. If Congress has the power, as unquestionably it has, to require that officers of vessels of the United States shall be citizens of this country, it also has the power to prescribe that only citizens of the United States shall be employed on American vessels as seamen; or that it shall be unlawful to enter into contracts with aliens to perform service as seamen on board American vessels.

Now, while Congress has not seen fit to prohibit the employment of aliens on American vessels, in express terms, yet I am of the opinion that bringing aliens or foreigners to this country under contract to perform labor as seamen, etc., on American vessels running between the United States and Canada, is in violation of the act of Feb. 26, 1885 and the act of March 3, 1891. In this opinion I have the concurrence of Elihu Coleman, United States attorney for the eastern district of Wisconsin.

F. A. REEVE, Acting Solicitor.

Renewal of Last Season's Canal Rules.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., April 8.—The action of the government in renewing the order of last year regarding canal tolls was hardly a surprise to vessel owners. Deputations representing both sides of the case appeared before the minister last week and the matter was thoroughly threshed out. Recently Mr. W. Stewart, manager of the Kingston & Montreal Transportation Company, sent in his resignation as a member of the Canadian Marine Association, giving as a reason therefore that the association in favoring a rebate of canal tolls was aiding a sectional interest, viz. those who transhipped at Canadian ports alone. He wanted all treated alike. While before the ministry this matter was alluded to, when D. J. Thompson, one of the Montreal Transportation Company's managers, said Mr. Stewart would have been expelled from the association but for him, as he was untrue to its interests. Not in many years has there been such keen feeling displayed. It was Montreal against the western country. H. Calvin, timber forwarder, telegraphed the premier asking why should coal, timber, lumber and other goods pay canal tolls and grain be exempt. The Calvin company does the towing for the Kingston & Montreal Forwarding Company and is therefore interested in grain carrying.

The new steel tug being built by the Collinsby Rafting Company will be ready by May 1. She will cost \$20,000 and be called Petrel.

Great preparations have been made by both forwarding companies for large business this season. Every available barge and vessel has been

put in good condition. A rush of grain, principally corn, is expected just as soon as navigation opens from Duluth and Port Arthur. The ice is now leaving the harbor here and an early opening is anticipated.

These masters have been appointed: Schooners—Grantham, Capt. Thomas Crawford; Annie Falconer, Capt. D. Corson; B. W. Folger, Capt. D. Bates; Ella Murton, Capt. Murton; Hanlon, Capt. T. Craig; Fleetwing, Capt. M. Shaw; White Oak, Capt. J. Dix; Singapore, Capt. J. McCarty.

After the St. Magnus is rebuilt she will run between Duluth and Montreal.

Appointments of Masters and Engineers.

GILCHRIST, J. C., CLEVELAND, O.: Steamers—W. H. Gilcher, Capt. L. H. Weeks, Engineer S. B. Jones; R. E. Schuck, Capt. George Bell, Engineer James Walsh; John Craig, Capt. J. L. Weeks, Engineer James Mitchell; J. C. Gilchrist, Capt. Frank Rae, Engineer John Parks; Cumberland, Capt. C. T. Gunderson, Engineer Birney; Columbia, Capt. Olaf Olson, Engineer C. N. Allbee; Hiawatha, Capt. C. C. Towsley, Engineer F. Fitzgerald; Oregon, Capt. F. C. Goodell, Engineer Walter Stokes; Waverly, Capt. Henry Moody, Engineer Schnell. Schooners—H. D. Alverson, Capt. H. Gunderson; B. F. Bruce, Capt. Theodore Peterson; W. S. Crosthwaite, Capt. John Robinson; S. H. Foster, Capt. Thomas Harbottle; Verona, Capt. John Farwell.

ANCHOR LINE, BUFFALO, N. Y.: Steamers—India, Capt. F. D. Osborne; China, Capt. C. Mason; Japan, Capt. Robert Smith; Gordon Campbell, Capt. George Graser; Susquehanna, Capt. M. Riley; Clarion, Capt. Joseph Corcoran; Lehigh, Capt. H. A. Sisson; Philadelphia, Capt. A. E. Huff; Lycoming, Capt. L. Wright; Alaska, Capt. M. Rowan; Cone-maugh, Capt. H. O. Miller; Conestoga, Capt. F. Bloom; Delaware, Capt. P. O'Neil; Juniata, Capt. Dall Ryder; Wissahickon, Capt. H. Durker; Codorus, Capt. John McCarthy; Chuykill, Capt. John Doherty; Mahoning, Capt. C. Christy.

Medals For Bravery in Saving Life.

We have had a number of inquiries of late regarding regulations governing the treasury department in the award of medals for bravery in saving lives. Two or three cases in which the department has been asked to award medals of the first class to lake captains are now being considered. It is always best to proceed in such matters through the Congressman of the district in which the applicant resides. The printed rules of the department interpreting the law say that awards can be made only to the following persons:

"Those who have endangered their lives in saving or endeavoring to save others from the perils of the sea within the jurisdiction of the United States or upon an American vessel.

"Those who have made signal exertions in rescuing and succoring the shipwrecked and in saving persons from drowning.

"It should be observed that the saving of life or giving of succor does not, in itself, entitle a person to a medal. Services of this kind are rendered almost daily, which, although very commendable, are yet not accompanied by special risk, danger, or sacrifice on the part of those performing them. It is obvious that it was not the intention of Congress to offer rewards in these cases, but to reserve them for those exceptional instances where peculiar bravery or unusual effort has been displayed, or some great personal sacrifice has been made.

"Satisfactory evidence of the services performed must be filed in each case. This evidence should be in the form of affidavits made by persons of good repute and standing, who can, of their own knowledge, testify as to the efforts made by the person for whom the award is sought. Such affidavits should state in detail everything that occurred, showing clearly in what manner and to what extent life was risked or signal exertions made, and also the precise locality, whether within the United States or upon an American vessel.

"The affidavits should be made before an officer duly authorized to administer oaths, and be accompanied by a certificate showing the affiants to be credible persons, signed either by the United States district attorney for the district in which the affiants reside, or by the collector of customs of their collection district."

Statements of the world's production of iron ore show that notwithstanding the reduction in the United States in 1891 of nearly 1,000,000 tons, we are still the largest pig iron producing country in the world, leading Great Britain in 1891 over 1,000,000 tons.

The Proposed General Organization.

Most of the Buffalo managers of line boats, as well as all of the Chicago vessel owners, are very favorably impressed with the proposition to form one general association of lake vessel owners, and it is very probable that at the convention to take place in Detroit next week a practicable plan will be brought out for adoption by the Lake Carriers' Association and the local organizations in Cleveland, Detroit and Chicago. The general idea regarding the new organization, as discussed at the meeting in Cleveland a week ago, is to retain in the cities where local associations are now in operation the local features of such associations, but assign to the general organization the collection and distribution of tonnage dues for the maintenance of shipping offices, salaries of officers and other expenses incidental to measures before Congress affecting lake interests.

The proposition for this general organization was brought about by the action of Messrs. James Corrigan and M. A. Bradley of Cleveland in refusing to join the Lake Carriers' Association for another year, unless that body would agree to take up the regulation of wages and the establishment of shipping offices after the plan now proposed. Other vessel owners in Cleveland would undoubtedly follow the example set by Messrs. Bradley and Corrigan, and it is probably well that a move has been made in the matter, as it has resulted in a better understanding between Buffalo and Cleveland owners, who have not worked together very harmoniously. In the regulation of wages and the suppression of strikes the Cleveland Vessel Owners' Association has been very successful during the past four or five years, and the feeling among leading members on this account has been strongly in favor of extending the service of shipping offices to Chicago, Buffalo, Escanaba, Ashland and other leading ports. The question of dealing with labor matters is not, however, considered of more importance than that of securing favorable legislation in Washington. Few of the vessel owners understand the extent of labor performed in this line by Mr. C. H. Keep, Capt. George P. McKay and a few others who sacrifice their own time for the general welfare, but among those who are informed regarding the work it is appreciated. The newly organized Detroit association, which has already provided for an assessment to cover the expense of dealing with legislation, may be slow in agreeing upon this side of the question, but if such is the case a mistake will be made. Detroit or Michigan vessel owners, with an assessment of one cent a ton, can accomplish little in Washington, and whatever may be said of the policy of the Lake Carriers' Association being too conservative, it will be admitted by every vessel owner who is familiar with the work done by Mr. Keep during the past two years that a great mistake will be made if a continuation of his services is not secured whether present plans for a general organization are carried out or not. He has become thoroughly acquainted with the workings of congressional committees and all of the detail pertaining to legislation in Washington, and his loyalty to Buffalo interests in the Lake Carriers' Association can be and is overlooked in Cleveland, where many owners stand ready to pay even 5 cents a ton in support of the new organization. They argue that in making a charter the question of dispatch often causes them to accept without hesitancy a reduction of 5 cents in the freight rate, while the benefits of the proposed association are much greater than anything that might be obtained in the way of dispatch on a single trip.

At a meeting of the Cleveland Vessel Owners' Association on Tuesday, held for the purpose of fixing wages for the opening, the subject of the general association was taken up a second time, and the reports from Chicago, Milwaukee and Buffalo, concurring in the plans so far proposed, were the cause of a great deal of enthusiasm. Mr. H. A. Hawgood was delegated to visit Detroit this week and secure, if possible, a discussion of the subject there in preparation for the general meeting to be held next week.

Stage of Water at St. Mary's Falls Canal.

Although Supt. Martin Lynch of St. Mary's Falls canal reported 14 feet 3 inches as the available depth of water in the canal for sixty days or more previous to the 1st inst., Harvey's Marine Bureau sends out a circular reporting only 13 feet 9 inches on that date. Mild weather has prevailed at the Sault for a week past, and April 25 is looked to as an outside date for the opening. At 14 feet or less the available depth of water in the canal will be lower than at the opening last season.

Advanced Wages.

At a meeting of the Cleveland Vessel Owners' Association on Tuesday wages for all grades of help were advanced over those of the opening last season in accordance with the following comparative schedule:

ON STEAMERS—

	Opening, 1891, per month.	Opening, 1892, per month.
First mates.....	\$60 00 to \$70 00	\$60 00 to \$80 00
Second "	40 00 to 50 00	45 00 to 60 00
Cooks.....	40 00 to 50 00	45 00 to 50 00
Helpers	10 00 to 15 00	15 00 to 20 00
Firemen.....	25 00 to 30 00	30 00 to 37 50
Wheelmen.....	25 00 to 30 00	30 00 to 37 50
Lookout.....	20 00 to 25 00	30 00 to 37 50
Deck hands.....	15 00	15 00 to 20 00
Oilers, (when carried).....	25 00 to 30 00	30 00 to 37 50

ON CONSORTS AND SAIL—

First mates.....	\$45 00 to \$55 00	\$45 00 to \$60 00
Second "	30 00 to 40 00	37 50 to 45 00
Cooks.....	20 00 to 30 00	30 00 to 37 50
Seamen.....	25 00 to 30 00	30 00 to 37 50
Boys.....	15 00	15 00 to 20 00

Wages of engineers, which were fixed several weeks ago, are as follows:

First grade—Metal steamers having water bottoms and triple expansion engines, chief engineer \$115 to \$125 per month; second engineer \$75 to \$80.

Second grade—Metal steamers not included in the first class and wooden steamers with triple expansion and compound engines, excepting small boats which may be put in class three, chief \$100 to \$115; second \$70 to \$75.

Third grade—Small boats with high pressure or low pressure engines or with compound engines not included in the two former grades, chief \$80 to \$100; second \$60 to \$70.

Firemen engaged in the work of fitting out and laying up vessels will be paid \$1.50 per day, the same as in previous seasons.

In General.

At his home in Minneapolis a short time ago, Joseph Francis, the inventor of the Francis metallic life boat and the founder of the American Shipwreck Society of 1842, celebrated the ninety-first anniversary of his birth day. He has been honored by our own government and all of the crowned heads of Europe.

The U. S. S. Baltimore's condenser is of English design, having steam inside the tubes. The space around the tubes was completely filled with mud and when the tubes were taken out to be cleaned at the Mare island navy yard recently it was found that they could be broken across the knee. The fracture showed a brassy color on the inside but the remainder of the tube was of dull copper color and having a granulated appearance. Electric currents caused by use of brass condenser shell was the only cause suggested but an investigation is expected to show something more definite.

The Cygnet, owned by the Shipman Engine Company, Rochester, N. Y., is said to be the smallest yacht ever lighted by electricity. The vessel is 35 feet over all, and 7 feet beam. A Shipman boiler supplies steam at 160 pounds to the compound engine with cylinders $3\frac{1}{2}$ and $6\frac{1}{4}$ inches by 5 inches. The dynamo engine is bolted to the cylinder head of the main engine and makes 500 revolutions per minute. It is belted to a $\frac{1}{2}$ kilowatt generator capable of supplying ten incandescent lights. A search light can be thrown into the circuit and by means of it the bottom of the lake can be seen in 40 feet of water.—Electricity.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, } PROPRIETORS.
F. M. BARTON, }

HOMER J. CARR, - - - Associate Editor and Manager Chicago Office,
210 South Water Street.

Published every Thursday at No. 516 Perry-Payne Building, Cleveland, O.

SUBSCRIPTION—\$2.00 per year in advance. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,600 vessels, measuring 1,154,870.38 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of vessels of 1,000 to 2,500 tons on the lakes on June 30, 1891, was 310 and their aggregate gross tonnage 512,787.58; in all other parts of the country the number of this class of vessels was, on the same date, 213 and their gross tonnage 319,750.84. The classification of the entire lake fleet is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,592	756,751.53
Sailing vessels.....	1,243	325,131.06
Canal boats.....	703	72,515.42
Barges.....	62	20,472.37
Total.....	3,600	1,154,870.38

Tonnage built on the lakes during the past five years, according to the report of the United States commissioner of navigation, is as follows:

	No. of boats.	Net Tonnage.
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
1891.....	204	111,856.45
Total.....	1,021	485,042.94

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014.

Entered at Cleveland Post Office as Second-class Mail Matter.

THROUGH a conflict of rulings in the different branches of the treasury department, owners and masters of steam vessels on the lakes, who are about to put their boats into commission for the coming season, are undecided as to whether it will be necessary to have their names placed on the bows as well as the pilot house and stern. With sail vessels and consorts the law of Feb. 28, 1891, requiring names on the bows, is of course fully understood, but many owners of steamers have had the names marked in a similar manner while others have not done so and there is no certainty as to whether they will be required to do so or not. Inspectors of steam vessels in all of the lake districts are in receipt of a circular from the office of the supervising inspector general quoting a ruling from the solicitor of the treasury department to the effect that section 4,495 of the revised statutes, which provides specifically for names on the pilot houses of steam vessels, was not repealed by the law of Feb. 28, 1891, which it is claimed does not apply to steam vessels. Under date of April 16, 1891, department circular No. 58, the commissioner of navigation makes a similar ruling with the approval of Acting Secretary A. B. Nettleton, but a later circular, that of Jan. 9, 1892, passing upon a case presented by the collector of customs at Port Townsend, Wash., holds distinctly that the act of Feb. 28, 1892, calls for the marking of the names of every documented vessel, steam or sail, upon each bow and upon the stern. This ruling is accompanied by an opinion in support of it from F. A. Reeve, acting secretary, and thus the department contradicts itself.

It would seem that the owners of steam vessels will place themselves on the safe side in this matter by having names marked on the bows, as a ruling from the courts may be required to settle the question. In the case of sail vessels and consorts there is no doubt as to the requirement of the law which provides for names upon each bow and upon the stern. "These names shall be painted or carved and gilded in Roman letters in a light color on a dark ground or a dark color on a light ground and to

be distinctly visible. The smallest letter used shall not be less in size than 4 inches."

THE Engineering Magazine for April contains another article on "Worthless Government Engineering" by George Y. Wisner, and a "plan of reform" is outlined together with criticism on the present system by four or five civil engineers. Five of the nine leading contributors to this number of the magazine are civil engineers, and through this medium, it seems, an effort is being made on the part of the "outs" to get in. Similar efforts have been made several times in the past, but as in the present case it could not be proven that an engineer is incompetent merely because he is an army engineer, and the efforts proved fruitless.

ACTING SECRETARY WHARTON of the state department was mistaken when he wrote the REVIEW a few days ago that, as a result of the reciprocity conference between representatives of the Canadian and United States governments, the question of discrimination against American citizens in Canada's canal policy would probably be amicably settled. Canada again proposes the canal regulations of last season, and it now remains for our own government to collect at the St. Clair canal the same tolls on grain bound to Montreal that are now collected at the Welland on grain bound to Ogdensburg.

WITH the publication of this issue the MARINE REVIEW has taken up new and enlarged quarters at No. 516 Perry-Payne building. This note is made simply as a necessary business announcement. Since a modest beginning a little more than two years ago, when the first issue of this journal appeared, we have, without boasting, allowed our friends on the lakes to judge as to its progress.

No Case of General Average.

An interesting case in which the ship owner claimed a general average comes from the United States circuit court of appeals, Second circuit, Judges Wallace and Lacombe. The schooner Major Wm. H. Tantum, loaded with a cargo of iron, went for refuge inside the Delaware breakwater. A great storm followed and the vessel gradually dragged her anchors. The anchor chains gave way and with but a single one remaining she was drifting toward the beach broadside on. In this situation her master, fearing for the lives of those on board, determined to slip his cable and run ashore head on. The cable was accordingly slipped, and the vessel without canvas paid off and went head on the beach, afterwards turning broadside to the sea, and becoming a total loss. Part of the cargo was saved and forwarded to its destination. The ship owner, claiming a general average, brought suit against the cargo owner to recover \$2,939.03, the amount charged against the cargo by the average adjusters. The district court held that the action of the master in slipping his cable was done for the purpose of saving life, and with no other motive, and therefore dismissed the libel. The libelants appealed to the circuit court but the decision of that court was also against them and was as follows: "At the time the vessel slipped her cable she was on the eve, not of foundering in deep water, as her counsel contends, but of going ashore. Her hatches were not even started, she was making no water, and, at the rate at which she was drifting all the indications were that she would in a few minutes, ground on the beach, to leeward of her, broadside to the seas. The master slipped his cable and thus hastened the end, not averting any imminent peril of foundering in deep water, selecting no more favorable locality for stranding, and though she struck bow on, swinging afterwards broadside to the seas; in other words, as the learned district judge expresses it, stranding her 'substantially in the same place, under the same conditions and with the same result to her cargo,' though by striking bow on there was secured a better chance to save the lives of all on board. No case of general average is made out. The decree of the district court is affirmed with costs."

"Naval Architect and Shipbuilders' Pocket Book," by Clement Mackrow, N. A., is a morocco covered reference book containing an immense fund of information and valuable tables. You may order it from the MARINE REVIEW at the list price \$5.

Death of John Owen.



ing trade, and a large fortune which he leaves was built up largely upon his marine interests.

John Owen was born in Toronto, Can., March 20, 1809, and had therefore just passed his eighty-third birth day. He had lived in Detroit, however, from boyhood and his business advancement was closely connected with the progress of the city. Mr. Owen was one of Detroit's pioneer merchants, and a shrewd business policy secured for him great wealth, but he always found time to take an active part in matters pertaining to the welfare of the city and state. He was state treasurer for six years, held various important offices in the city of Detroit, and was a leader in church and charitable institutions.

Around the Lakes.

Tonnage now building at the three yards of the Detroit Dry Dock Company is valued at \$1,000,000.

Concerns that make castings for marine railways can learn of a purchaser by addressing the MARINE REVIEW.

Capt. James Byers of Buffalo, an associate in business with James Ash, and veteran tug man, died Tuesday. He was fifty-five years of age.

George Hall & Co. of Ogdensburg paid \$5,250 for the schooner E. P. Beals which they purchased from Capt. Boland and others of Buffalo a short time ago.

W. H. Wolf and other owners of the steamer Schlesinger have incorporated their interests in a company to be known as the Bunker Hill Transportation Company.

H. J. Parmalee, general agent of the inland marine department of the Aetna Insurance Company of Hartford, with an office on Wall street, New York, died at his home on Long island a few days ago.

George Simpson, compass adjuster, has returned to Boston after making a flying trip around lower lake ports. As soon as he adjusts the compasses of the light-house steamer Verbena he will return to Cleveland.

Frank Morrison, formerly of Simpson & Morrison, compass adjusters, reached Cleveland this week and will locate here permanently, manufacturing and repairing nautical instruments and adjusting compasses.

William A. McDonald and W. H. Moore of the Pioneer Provision Company, successors to McDonald Bros., West Superior, announce that they will insure delivery of telegrams or letters for captains entrusted to their care.

The barge Monitor is the boat purchased by the American Steel Barge Company for lightering service at the Sault. Capt. A. C. Chapman, last season in the Roman, will be in charge of the barge and its wrecking appliances.

The Republic Iron Company has sold a second wooden boat, the steamer Colonial, to a syndicate made up in the office of Moore, Bartow & Gilchrist, Cleveland, where the boat will be managed. The consideration is \$56,000.

Capt. Frank H. Danger is preparing S. B. Grummond's wrecking boat Manistique for service in the Straits. Capt. Danger is a man of wide experience in wrecking business. The Manistique will have a most complete wrecking outfit.

Rates adopted by the Buffalo Grain Shovelers' Union are the same as heretofore—\$4 for sail and \$4.50 for steam craft per 1,000 bushels, with deck loads and fantails at \$4.50. The net rates to vessels are 50 cents less per 1,000 bushels, also as heretofore.

H. M. Loud & Sons, lumber dealers of Oscoda, have incorporated the Huron Transportation Company, with headquarters at Buffalo. The capital is but \$25,000, although it is said that the lumber dealers have in view the ownership of a line of barges for their business.

General Manager John Gordon and Supt. William Meadowcraft of the Northern Steamship Company are interested with Henry C. French of Buffalo, who recently purchased the steamers Avon and Portage for service in the package freight business between Buffalo and the head of Lake Superior.

The steamer Uganda, launched at Wheeler & Co.'s yard, West Bay City, this week, will be followed by twelve more new boats on the stocks in the two shipyards at that place. Four of them are light-ships for the government and the others are all big coarse freight carriers. The Uganda is being built for McBrier and others of Erie.

The whaleback steamers of the New Soo Line from Gladstone will be launched early in April and come out about June 1. Capt. Tavers, who was formerly in one of the Canadian Pacific boats will sail one of the boats and the other will be sailed by Capt. McFarlane. These boats will differ in appearance considerably from the other whaleback steamers. The hull runs up 2½ feet above the main deck before it curves in, thus giving ample space for gang-ways of which there will be four on each side.

A new weather prophet, James Johnson of Buckingham, Kankakee county, Ill., has begun to make predictions for the lakes. In a letter to the Cleveland Vessel Owners' Association he says high winds and gales will occur on the lakes on April 10, 20, 24, 25 and 30. He entreats the vessel owners to bear the dates in mind and note the condition of the elements in order that his ability as a prophet may be tested. Warm weather will prevail, he says, during the first ten days of the month while the second period of ten days will be cooler.

Owners of Chicago river tugs, who have agreed upon a fixed tariff for 1892, propose to charge 80 per cent. of the published tariff of last season. The towing business will not be divided by stationing tugs at the piers, as has been the case in some other places where tug pools have been formed. It is claimed that the construction of a new tunnel near Van Buren street for the West Side Street Railroad Company will be a great hindrance to navigation in the Chicago river during the coming season.

Transfers of vessel property: Schooner Ogarita, Pardee and others of Buffalo to Thomas Madden of Saginaw and Connelly Bros. of Buffalo, \$12,000; Schooner Typo, W. J. Otter of Detroit to W. H. Hargrave, \$6,000; Mont Blanc, Hugh Coyne of Detroit to Benj. F. Comfort, \$4,500; Schooner M. P. Barkalow, James Law, to Louis Talbot, \$3,000; steamer Nashua, D. B. Milton and others to Wolverine Barge Company, \$15,000; steamer Mineral Rock, Candler Bros. of Detroit to Capt. Alvin Neal of Port Huron; schooner Sweepstakes, Candler Bros. of Detroit to Capt. Thomas Pink of Port Huron.

The Globe Iron Works Company opened its launching season with the Lilac last week and this week on Saturday the Samuel Mitchell, the first of the freighters they are building, will be launched. The Mitchell is very like the Republic, the chief difference being in her water bottom, which is 4½ feet deep. She will be commanded by Capt. Thomas Wilford. A large number of members of the local society of civil engineers will be present by special invitation of the Globe company. Three more boats in this yard will follow the Mitchell into the water at intervals of from two to three weeks.

For a book containing a dozen 4 by 8 inch illustrations of fast yachts send a stamp to the Roberts Safety Water Tube Boiler Company, 20 Cortland Street, New York. One of the reasons why they are fast yachts is that they all have Roberts boilers. W. J. White of the Say When, Commodore Simpson of the Lake George yacht club, John R. Fales, owner of the Countess, Ed. Stokes, owner of the Fra Diavolo, Harrison B. Moore, owner of the 22-mile yacht Pampero, and Painter Brothers of Pittsburgh, freely commend this boiler after using it in their yachts. The yacht building by the Detroit Boat Works for Mark Hopkins will also have a Roberts boiler.

Double Plate Planing Machine.

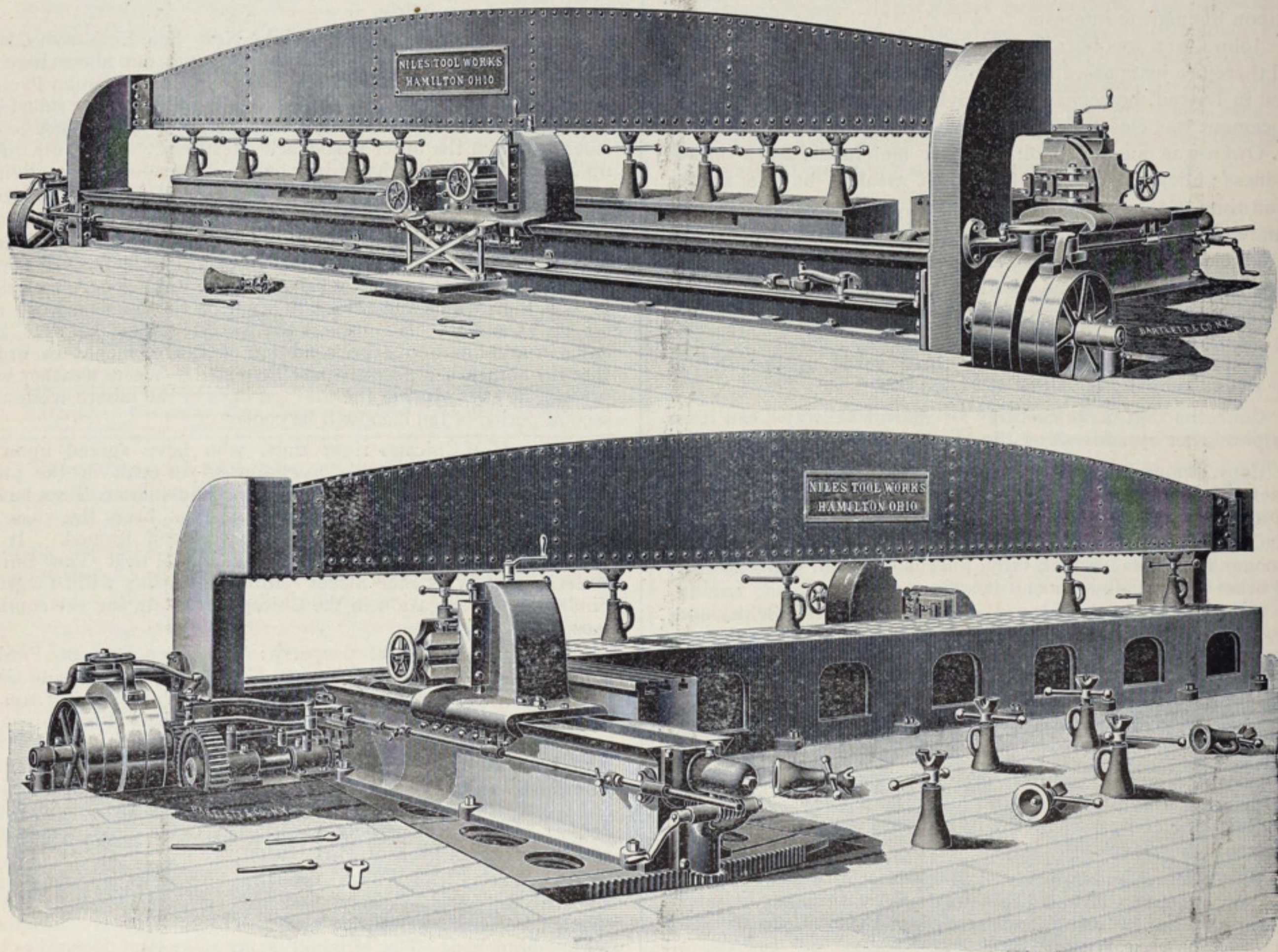
A front and a rear view of a plate planer constructed by the Niles Tool Works of Hamilton, O., is presented herewith. This company recently furnished two machines of this design for the United States government, one of them for the Boston and the other for the League island navy yard. The machine consists essentially of a heavy box bed, at either end of which are attached uprights joined by the heavy steel box beam seen at the top. Jackscrews placed under this beam and upon the sheet hold the latter firmly in place while being planed. The beam overhangs, permitting the planing of sheets of any length by re-setting.

At one end of the main bed is pivoted a shorter bed, upon which is fitted a saddle for planing the end of the sheet at the same setting. This bed may be adjusted by rack and pinion movement 10 degrees either way from a right angle. It rests upon a heavy slotted table, which is at the floor line. In its adjusting movement, the bed carries with it a slotted table on a level with the main bed, the end of the sheet being secured to this.

rigid construction throughout, and they are built for the heaviest work, those furnished the government being adapted to plane plates $1\frac{1}{2}$ inches thick, 24 feet long, at one setting, and 6 feet wide.

The Latest Addition to the Navy.

The Raleigh, the first war ship of the new navy built complete by the government in the U. S. navy yards, was launched at Norfolk last week. She is 300 feet on the load water line, 42 feet beam and her normal draft is 18 feet. Her estimated cost is \$1,642,915 and a premium of \$50,000 was offered for each additional quarter knot over 19 and the same deduction was to be made for speed deficiency, but all bids were in excess of the appropriation and the secretary of the navy was authorized to have them built at government yards. She will have two sets of engines working twin screws. It is estimated that her engines will develop 10,000 indicated horse power at full power, with a steam pressure of 160 pounds. This will drive the ship at twenty knots. Her coal supply at normal draft will be 400 tons, the bunkers will hold 675 tons and with this supply she can steam



FRONT AND REAR VIEW OF A PLATE PLANER.

The tool saddles are moved by powerful screws which are supported along their entire length to prevent deflection. The main saddle has two tools and cuts in both directions, one of these tools having an angular movement the same as an ordinary planer, while the other moves in a horizontal plane only. There is one tool only in the butt planing saddle, and the cutting is done in one direction. The saddle is, therefore, provided with quick return movement. There is a safety device which avoids the possibility of a collision between the tools. Should both saddles approach the corner of the sheet simultaneously, the main saddle reverses the motion of the other, and no harm can result. Tappets attached to rods automatically reverse the saddles by shifting open and crossed belts.

The machine, of course, enables sheets to be planed much more accurately, as well as much more expeditiously, where the ends are to be planed square or at an angle, than can be done on a single plate planer. As will be seen, the machines are of very

1500 miles at full power, or 10,500 at 10 knots, her most economical speed. The engines are of the triple expansion vertical, inverted, direct acting type with two low pressure cylinders. Her cylinders are 36, 53, 57 and 57 inches in diameter, with a common stroke of 33 inches. Steam is supplied by four double ended boilers, and two single ended ones to be used as auxiliaries. The grate surface is 597 square feet and the heating surface 19,382. The closed ash pit system of forced draught will be used. The condensers have each 7,000 square feet of cooling surface. The revolutions at full power will be 164.

Capt. Thos. Ross, steamer Chas. Macalester, Washington D. C., writes a friend who sends him the REVIEW: "Am greatly obliged to you for the favor of the REVIEW. We are framing the supplements as they come and are making a regular gallery of our office."

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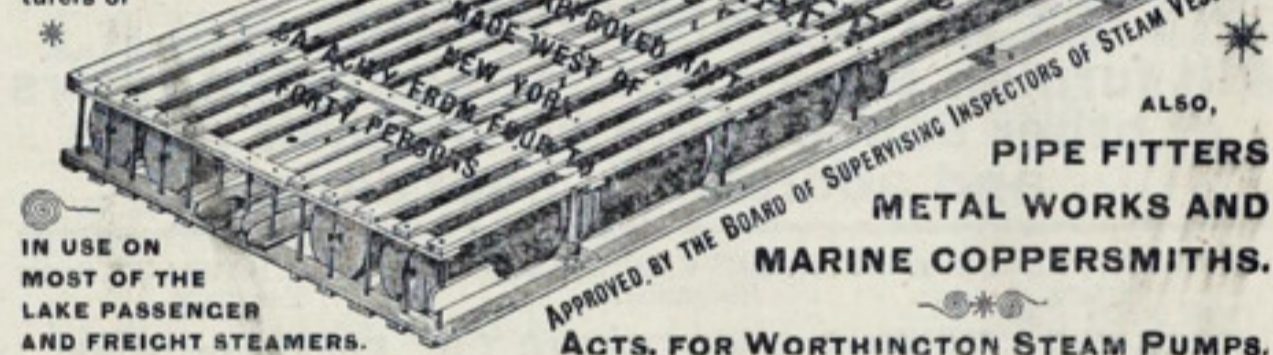
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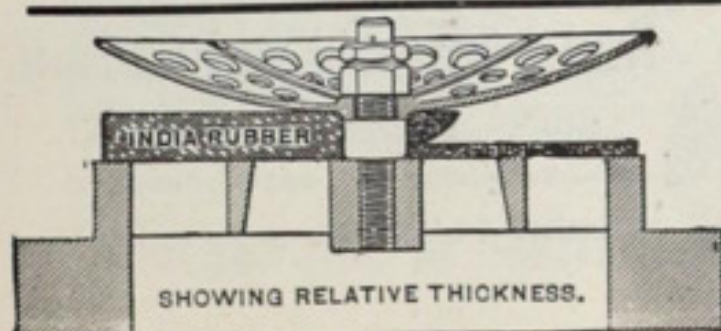
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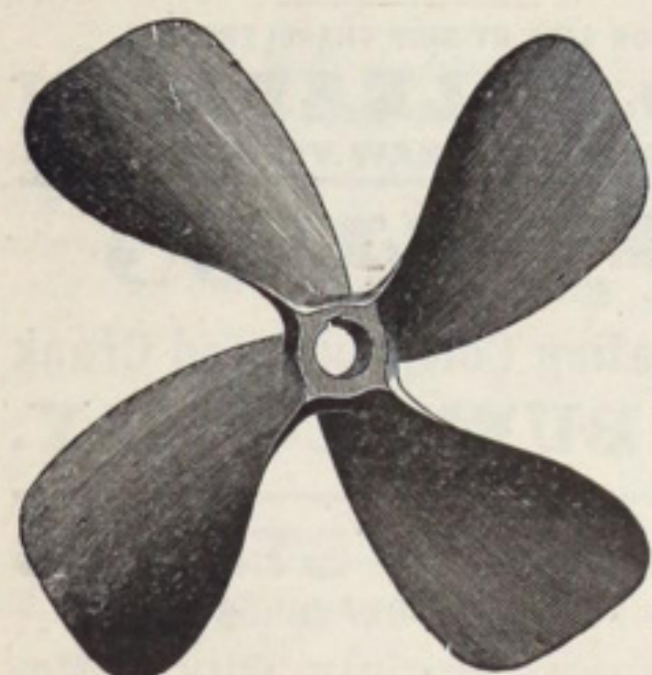
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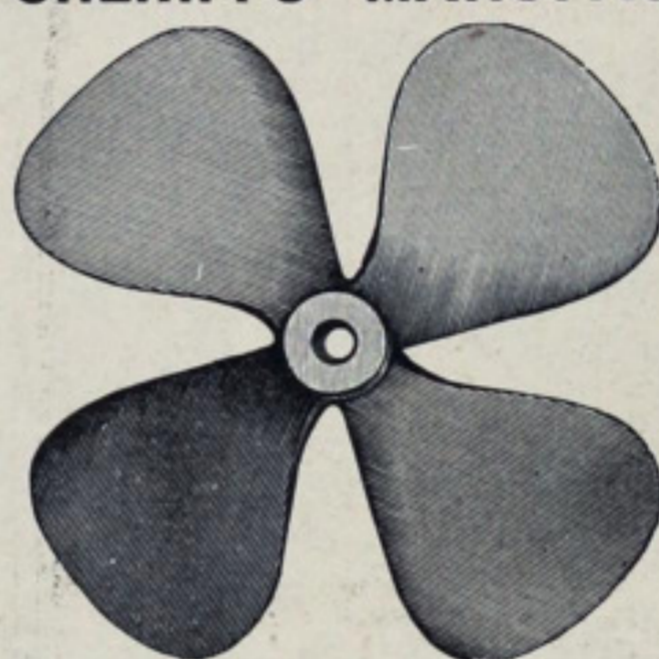
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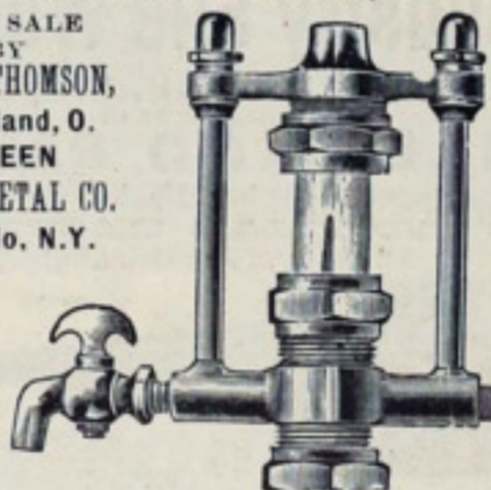
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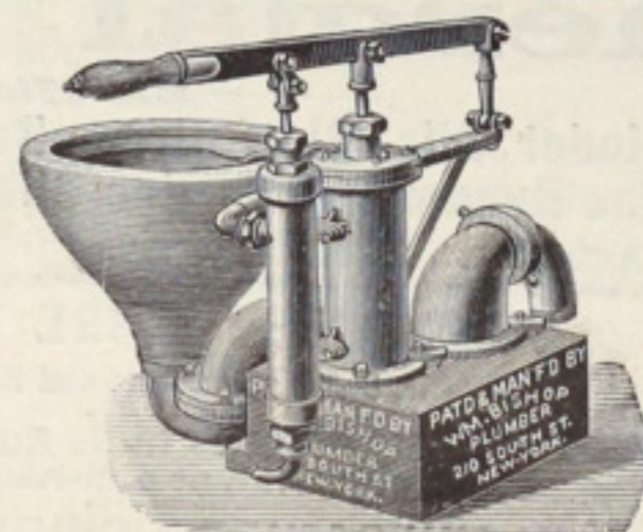
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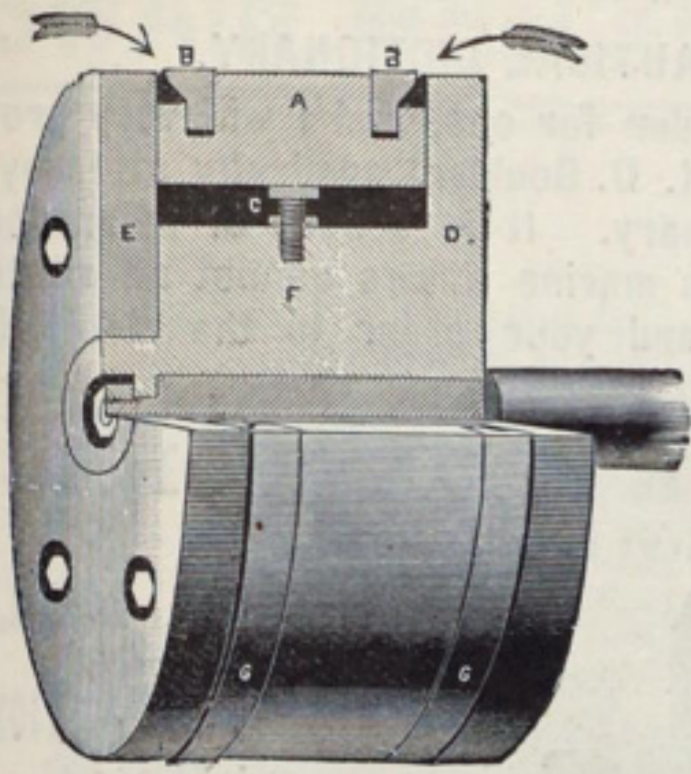
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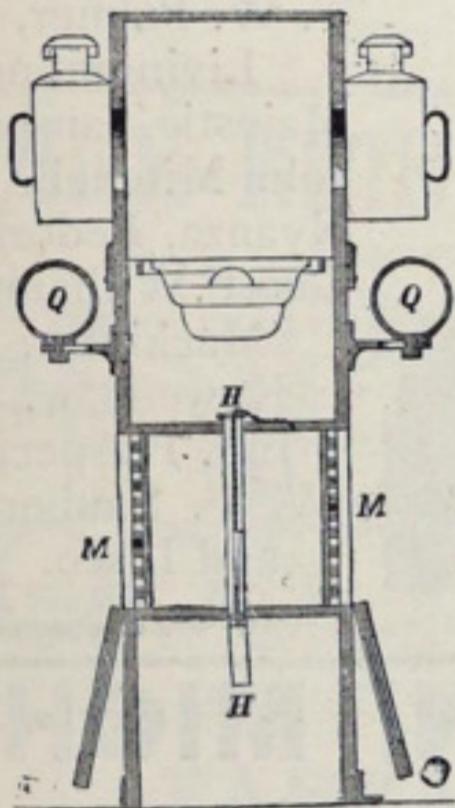
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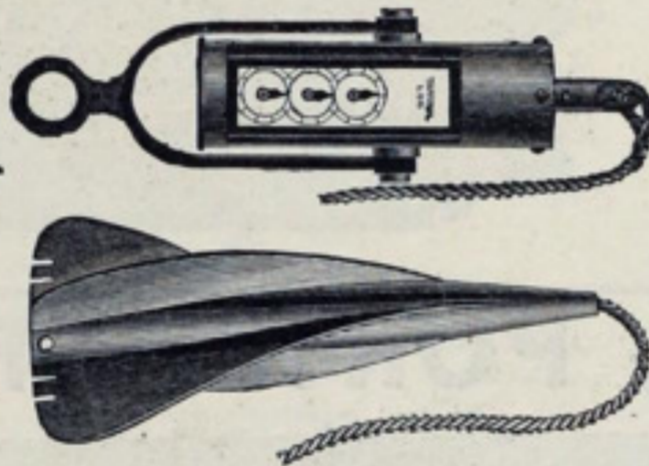
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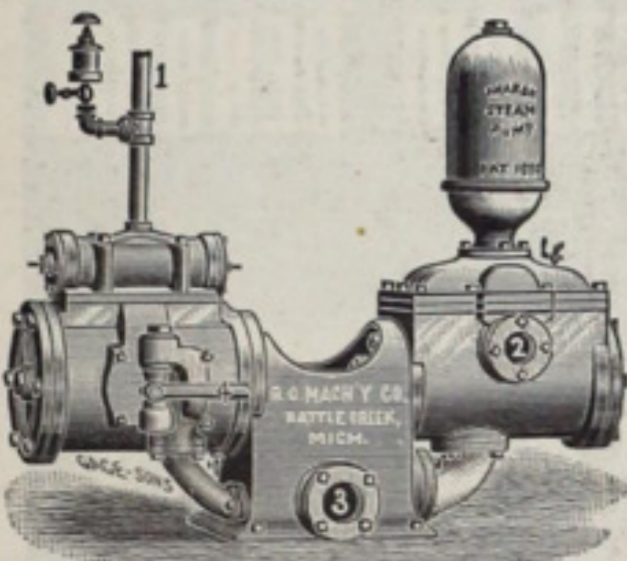
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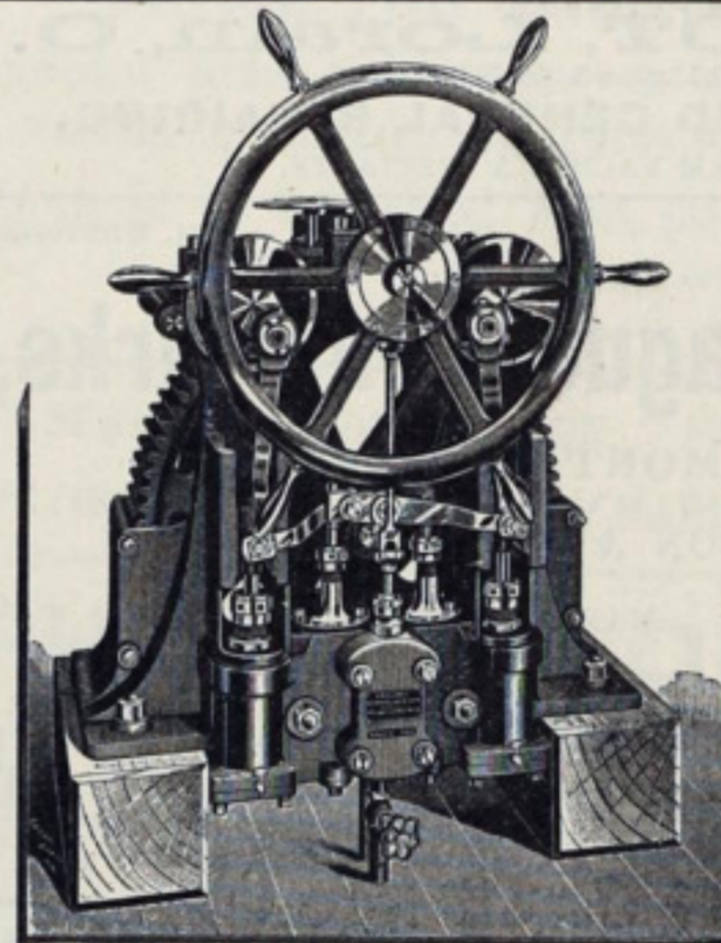
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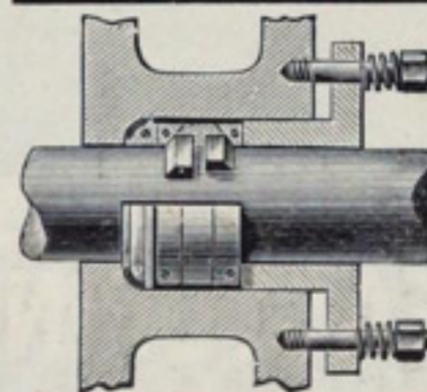
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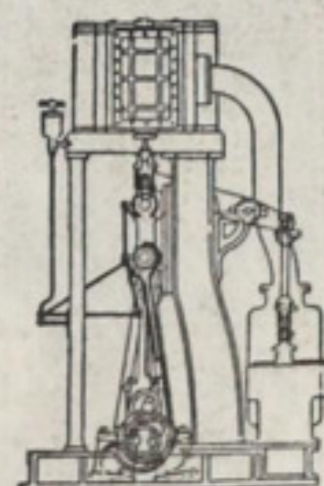


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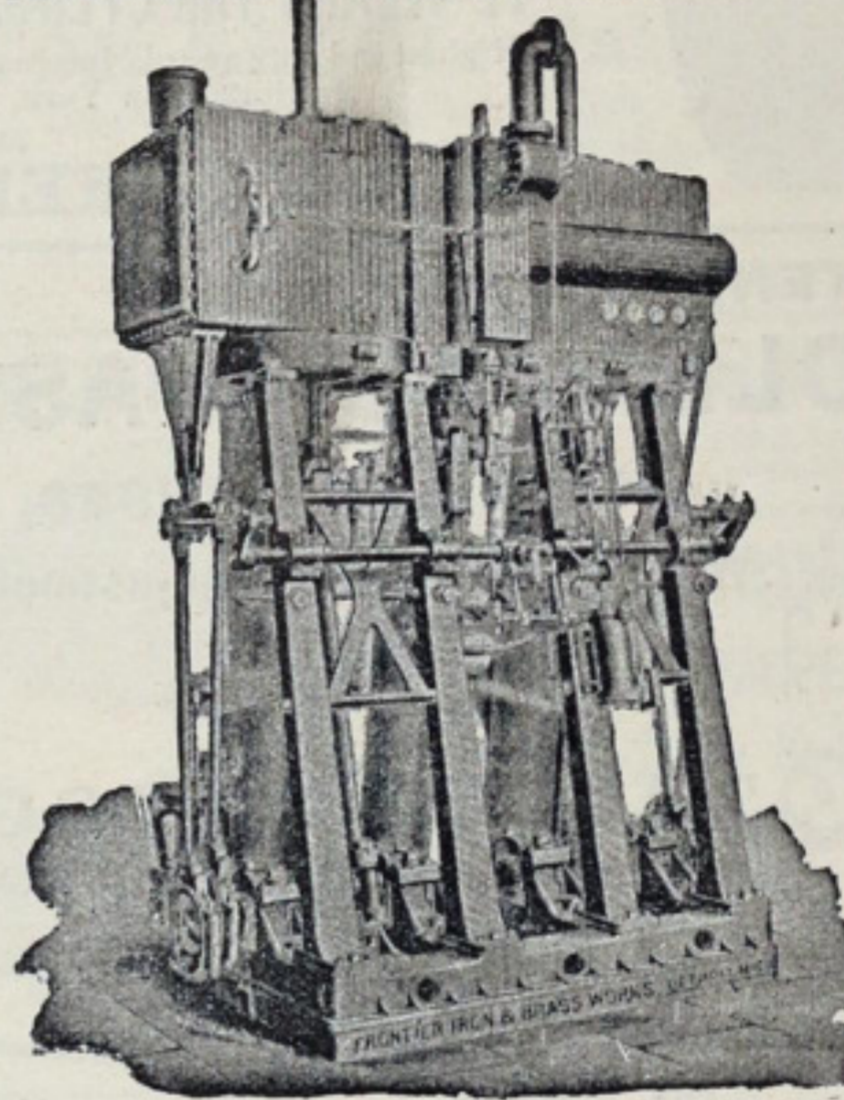
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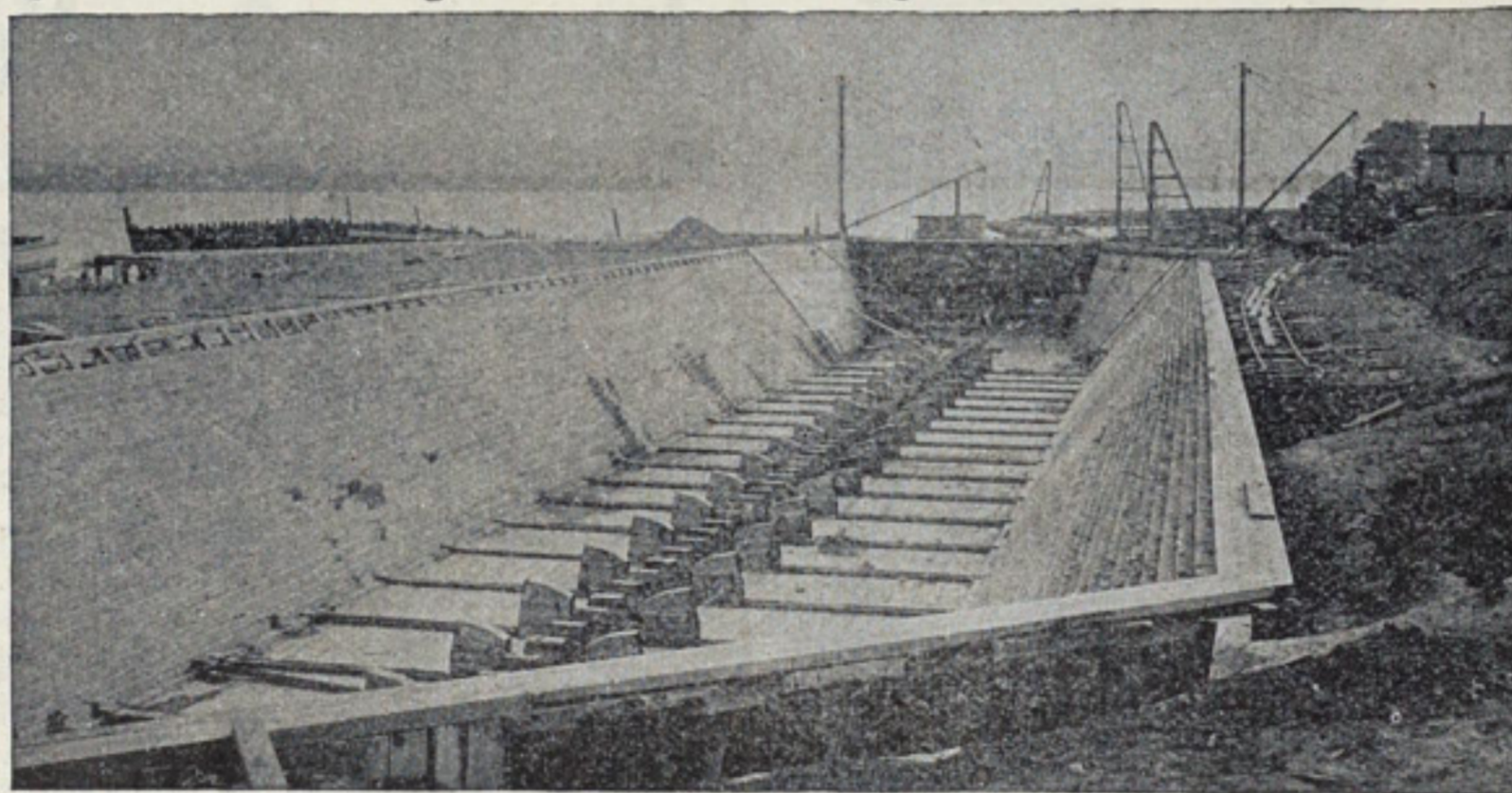
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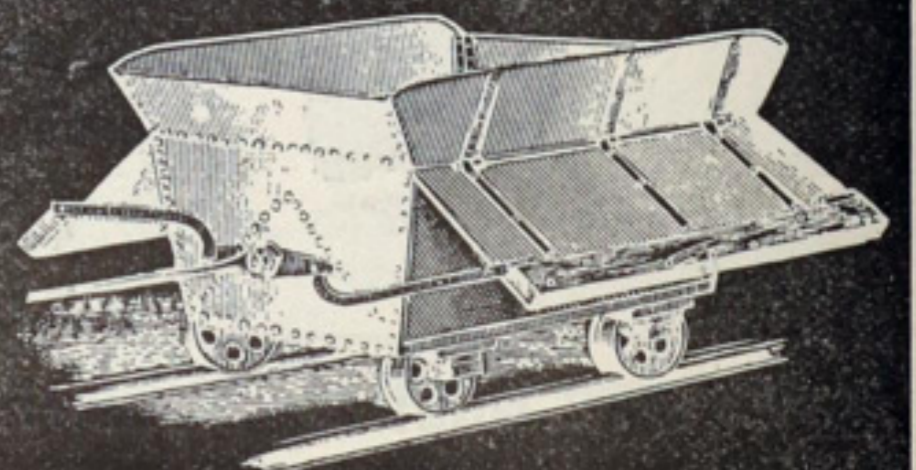
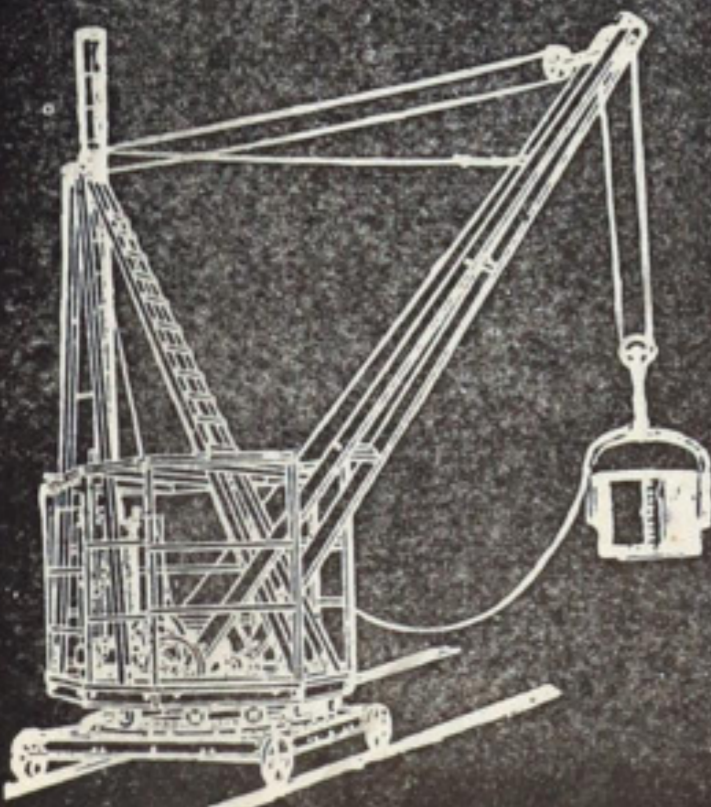
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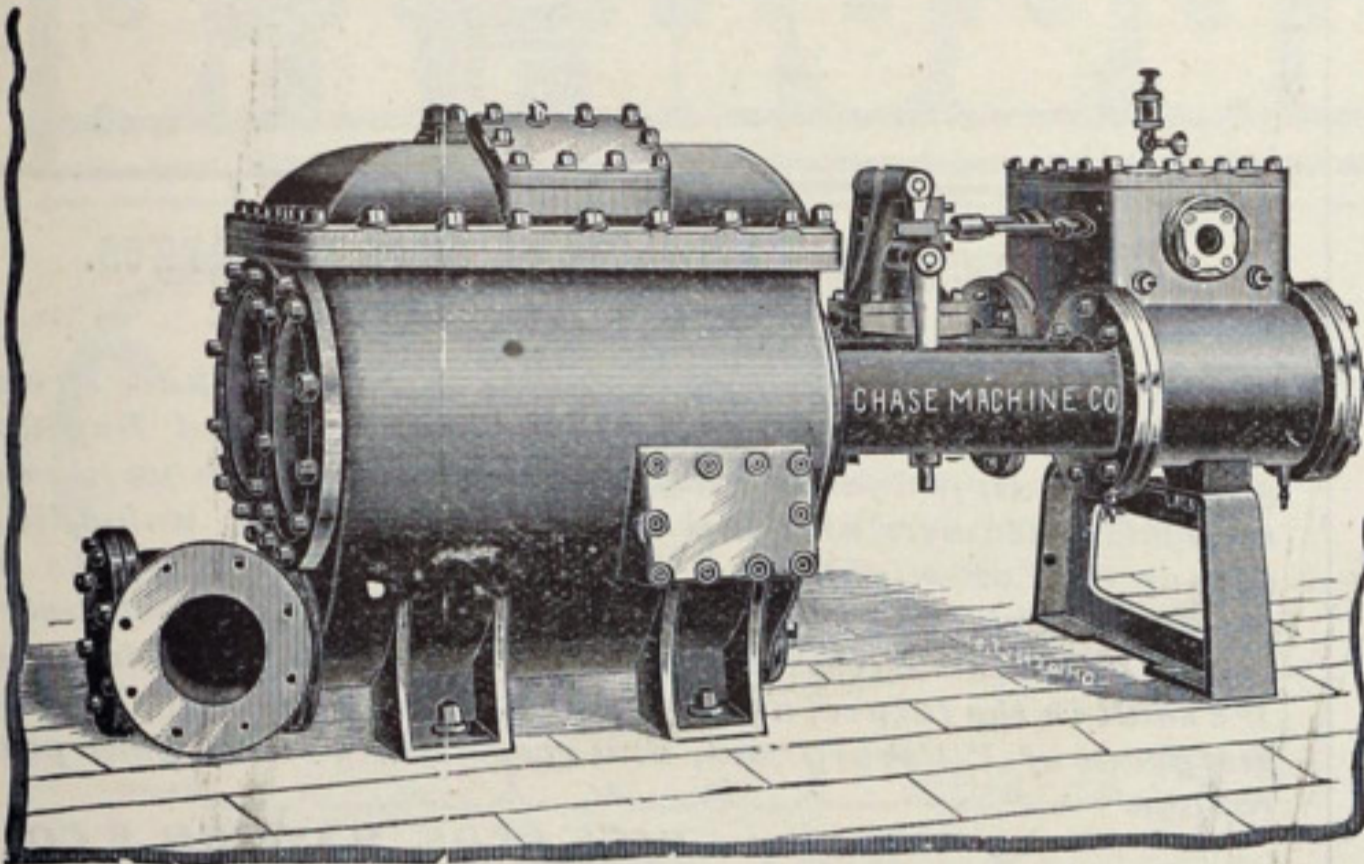
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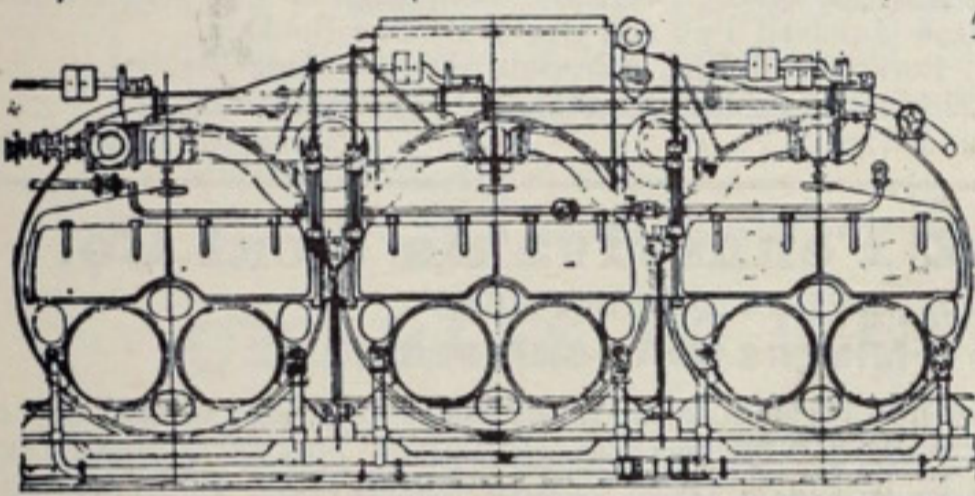
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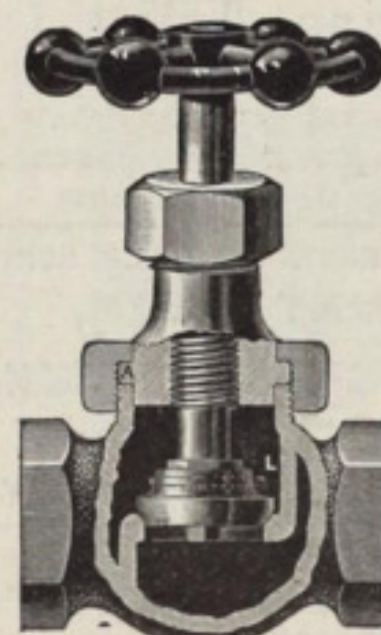
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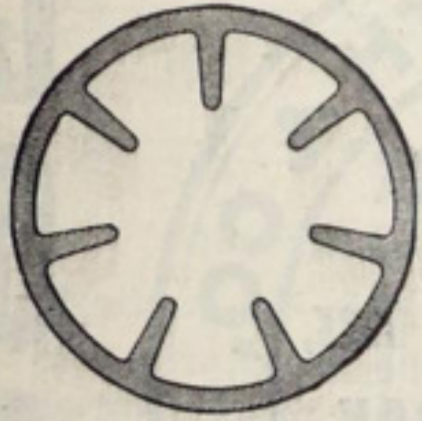
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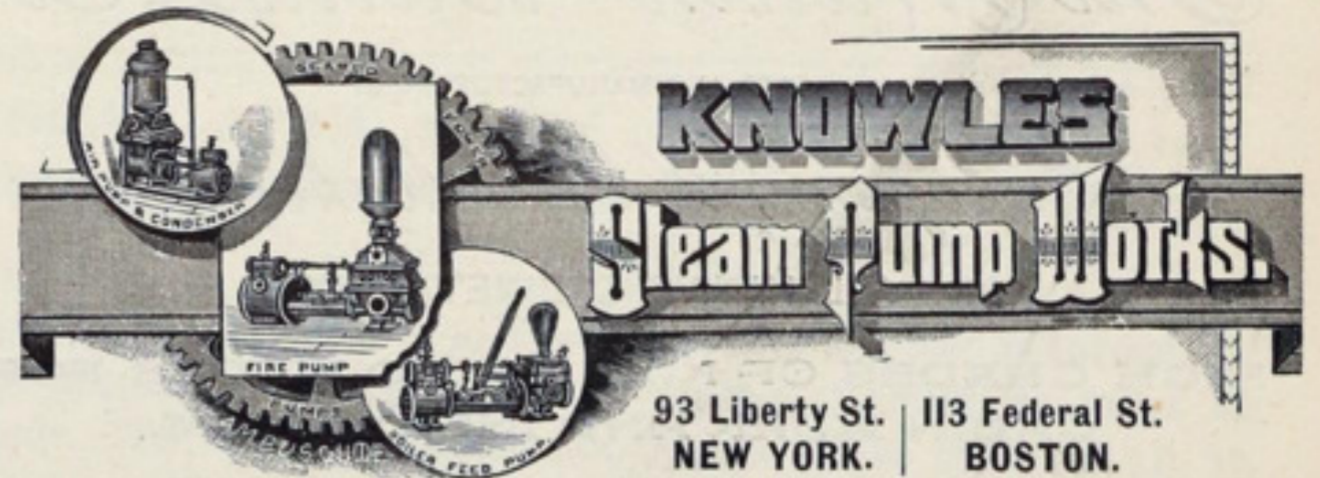
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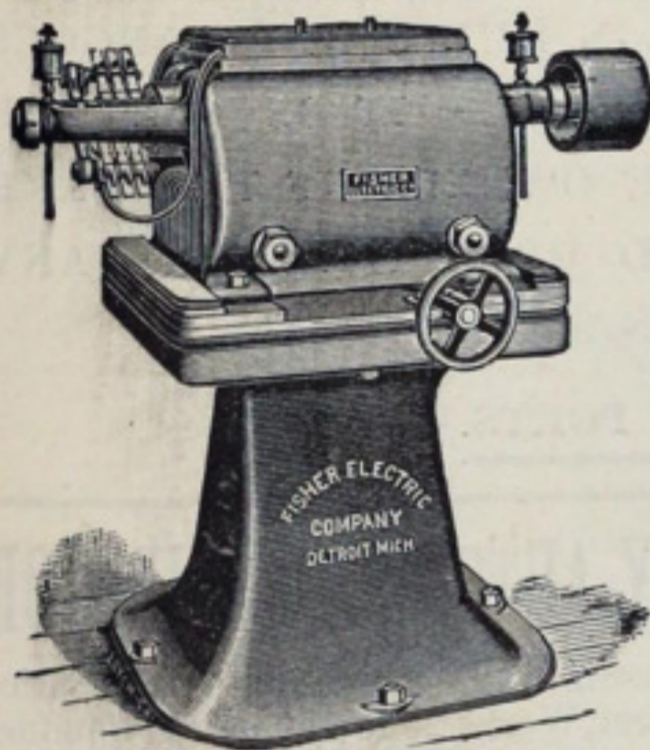
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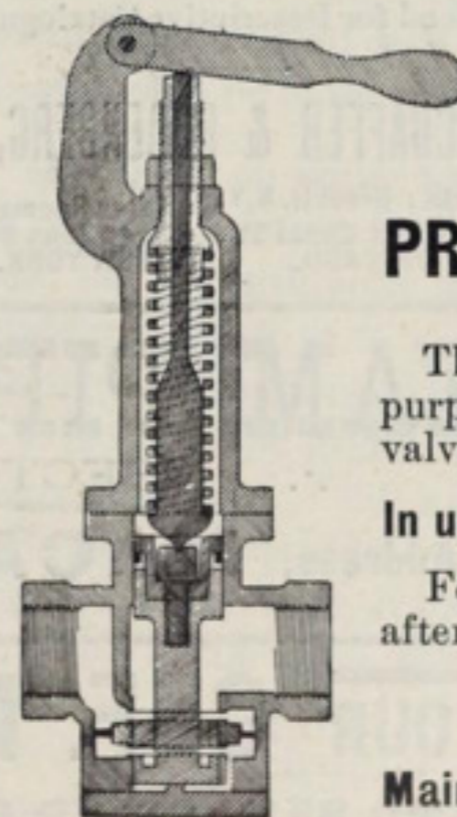
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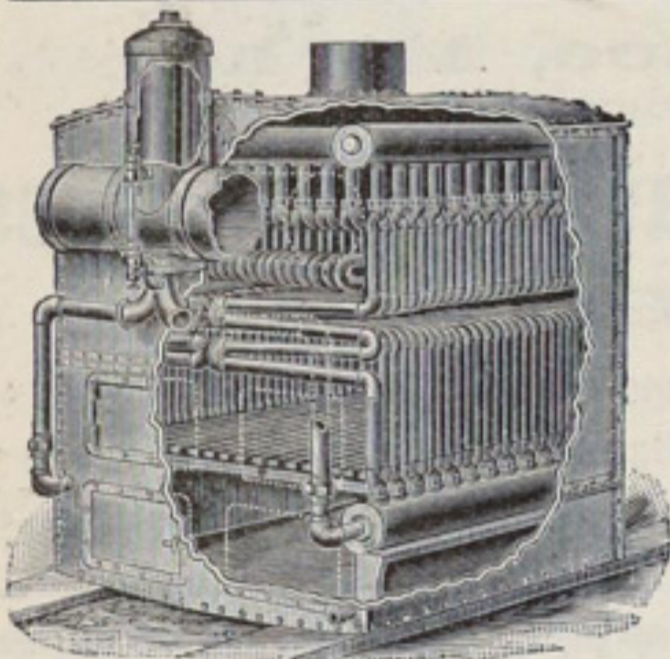
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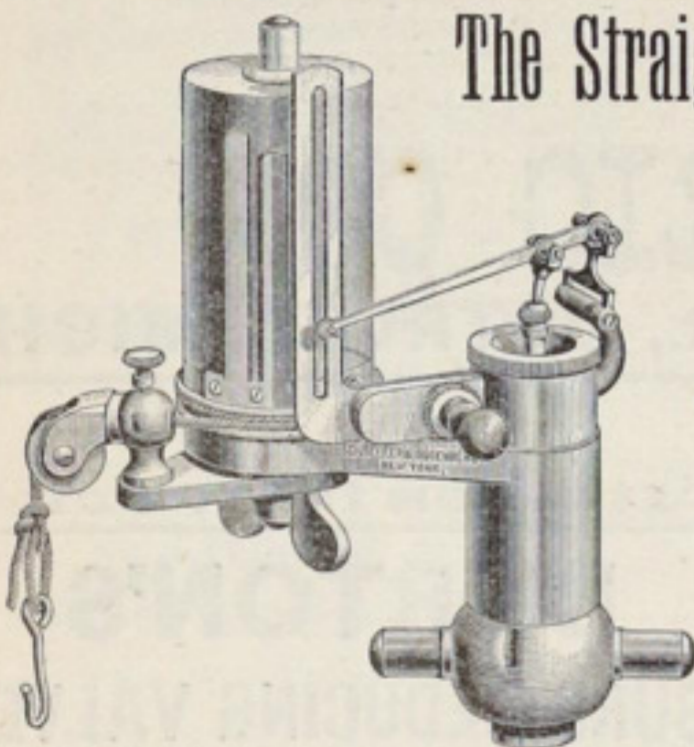
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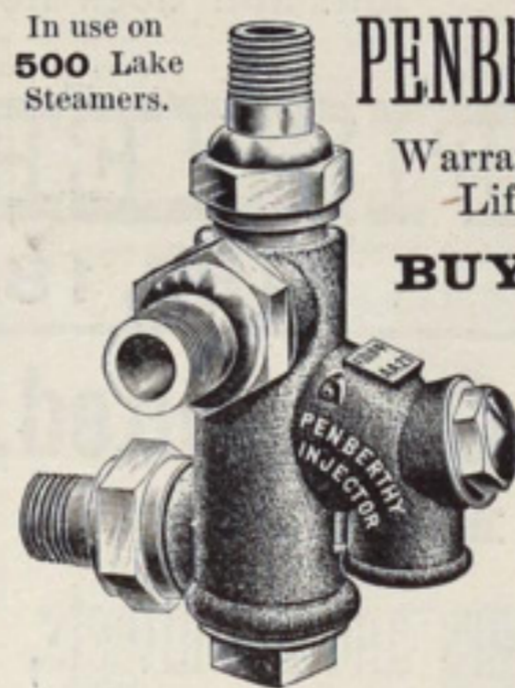
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